CLAIMS

1. A bridge for use in a group of bridges in a communications network, the communications network having a number of communications devices coupled together via a number of bridges and operating in accordance with a Spanning Tree Protocol (STP), the bridge comprising:

a number of interconnectable ports;

a group port which couples the grouped bridge to a corresponding group port of at least one other grouped bridge via a group link, the group link being provided to allow ports on different grouped bridges to be interconnected; and,

a processor, the processor being adapted to communicate with other bridges on the network using Bridge Protocol Data Units (BPDUs) to allow an optimum path through the network to be determined, wherein the optimum path is determined in accordance with path cost components which represent the ability of respective ports to transfer data.

2. A bridge according to claim 1, wherein each BPDU includes a bridge identifier representative of the bridge which generated the BPDU wherein the processor is adapted to set the path cost component of the group port equal to zero and each time a bridge in the group receives a BPDU via a port other than the group port, to cause the bridge to generate and transmit a new BPDU to the group port, the new BPDU having the bridge identifier and the port identifier of the received BPDU.

3. A bridge according to claim 2, the bridge including a store which stores the bridge identifier and the path cost component associated with each respective port.

4. A bridge according to claim 3, wherein the STP uses a port identifier associated with each bridge port, the port identifier representing the priority of the port, and wherein the port identifier of each port in the bridge is stored in the store.

5. A bridge according to claim 4, wherein the new BPDU is a group BPDU which further includes an indication of the port identifier of the bridge port at which the received BPDU was received.

6. A bridge according to any of the preceding claims, wherein the bridge includes a transfer store which stores data received at one of the ports before transferring the data to one or more of the other ports.

7. A group of bridges comprising a number of bridges according to any of claims 1 to 6, the bridges being coupled via a group link which interconnects the group ports on different bridges in the group.

8. A group of bridges according to claim 7 wherein the bridge identifier of each bridge in the group of bridges is identical.

9. A group of bridges according to claim 8, wherein each bridge has a respective MAC address, the bridge identifier of each grouped bridge being determined in accordance with the MAC address of one of the bridges in the group.

10. A group of bridges according to any of claims 7 to 9, when dependent on claim 5, wherein the port identifiers different for each bridge port of each grouped bridge.

11. A method of implementing a Spanning Tree Protocol (STP) on a communications network including a number of grouped bridges, the communications network having a number of communications devices coupled together via a number of bridges, each grouped bridge having a number of interconnectable ports including a group port which couples the grouped bridge to a corresponding group port of another grouped bridge via a group link, the group link being provided to allow ports on different grouped bridges to be interconnected, wherein the STP causes bridges in the network communicate with each other using Bridge Protocol Data Units (BPDUs) to determine an optimum path through the network, the optimum path being determined in accordance with path cost components representative of the ability of respective ports to transfer data, wherein each BPDU

includes a bridge identifier representative of the bridge from which the BPDU was received, the method comprising:

setting the path cost component of the group port equal to zero;

setting the bridge identifier of each bridge in the group to be equal; and,

each time a bridge in the group receives a BPDU via a port other than the group port, causing the bridge to generate and transmit a new BPDU to the group port, the new BPDU having the bridge identifier and the port identifier of the received BPDU.

12. A method according to claim 11, each grouped bridge having a respective MAC address, the bridge identifier of each bridge in the group being determined in accordance with the MAC address of one of the bridges in the group.

13. A method according to claim 11 or claim 12, wherein the STP uses a port identifier associated with each bridge port, the port identifier representing the priority of the port, the method further comprising assigning a unique port identifier to each port in the group of bridges.

14. A method according to claim 13, wherein the new BPDU is a group BPDU which further includes an indication of the port identifier and/or the port priority number of the bridge port at which the received BPDU was received.

15. A method according to any of claims 11 to 14, wherein the STP is a modified version of that defined by the IEEE 802.1D standard.

Sub A3

Sub A4

Add A5 on Separate page